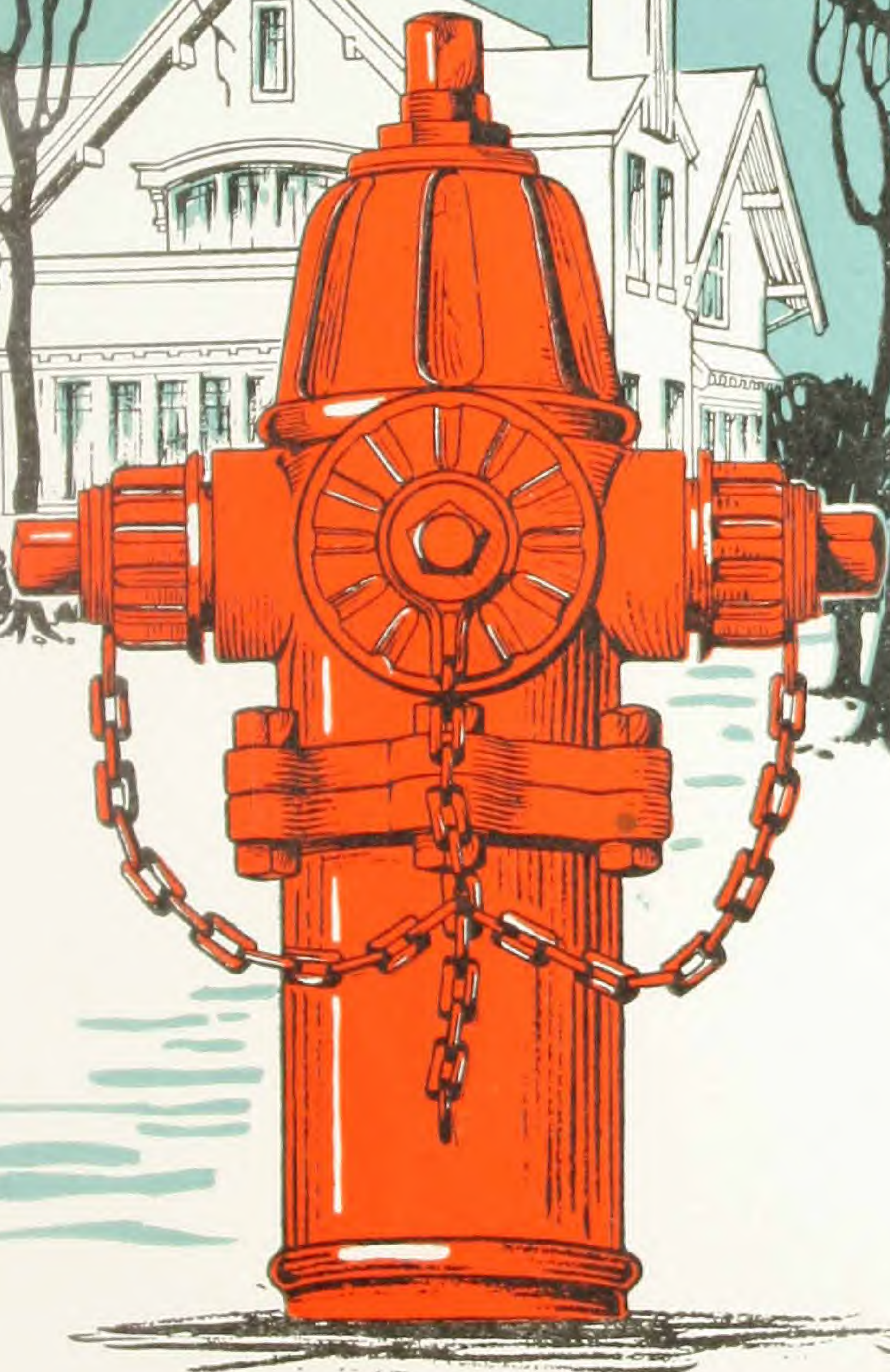


168-4.

STANDARD *of* THE NORTHWEST



WATEROUS FIRE ENGINE WORKS.
(INCORPORATED)
Saint Paul, Minn.



APR 17 '25

WATEROUS FIRE ENGINE WORKS

SAINT PAUL, MINN.

Manufacturers of the

WATEROUS

COMPRESSION FIRE HYDRANTS

CAST IRON PIPE SPECIALS

EXTENSION VALVE BOXES

GATE VALVES

WATER WORKS AND FIRE FIGHTING EQUIPMENT



*Our Goods are the Standard of the
Northwest*

*Catalogue No. C-5
1925*

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The WATEROUS Fire Hydrant

(Non-Jacket Type)

THIS hydrant is backed by an enviable record; it was born and raised in a climate of cold winters where the real freeze-proof qualities of a hydrant are positively shown.

For forty years the WATEROUS FIRE HYDRANT has rendered dependable service throughout the Northwest; in more recent years many cities in other sections of the country have adopted it.

There are many features of the WATEROUS HYDRANT, each, in itself, highly important, but when combined, place it in a class by itself.

Some of these features are: Removable and adjustable bonnet; Screw threads protected from water and freezing; Simplicity of construction; All bronze drain; Lubricating feature; Free waterway; Easy removal of all working parts, and others.

When selecting a fire hydrant we suggest a thorough comparison covering each of the above features.

If at any time you desire additional information, prices, etc., we will, without obligation, have our nearest representative call on you.



721 54485-52 DI
ID 84-158445 721



WATEROUS COMPRESSION FIRE HYDRANT
(PATENTS PENDING)

THE WATEROUS Compression Fire Hydrant

Description

TYPE

This hydrant is of the compression type, which means that valve closes with the pressure and opens against it. This eliminates all strain on working parts of hydrant and aids the action of spindle to keep the valve tight on its seat, and in case of injury by collision or other causes, the pressure will keep hydrant closed. Fluctuations in pressure have no effect on valve against its seat; for instance, assume that the valve is closed against forty pounds pressure, and that later the pressure in the mains is boosted to 100 pounds. In the compression hydrant the valve is pushed harder against its seat, while in a non-compression type the valve pressure against its seat is reduced and results in leaking.

MATERIAL

The standpipe and bonnet are of special close-grained gray iron; drain and all moving parts coming into contact with water are of phosphor bronze. All parts are sturdy and rugged, so that it is impossible to damage hydrant mechanism by carelessness or ignorance.

PACKING GLAND

Hydrant spindle nut mechanism is not exposed to water, eliminating possibility of freezing and seizing during the winter. The above will be clear when it is noted that packing gland is below, thus eliminating water and moisture. This also permits lubricating, insuring an easy operating hydrant. Should threads become stripped, due to abuse or ignorance, the hydrant will automatically shut itself off. It is also possible to open valve even with thread stripped. Hydrants having worms or screws in bottom of hydrant can not be lubricated without shutting off water in mains. In non-compression hydrants (where valve



WATEROUS FIRE HYDRANT

(Non-Jacket)

(PATENTS PENDING)

Net prices quoted on application. (See page 10.)

closes against water pressure) should thread accidentally become stripped, the valve flies open and can not be closed without shutting off water mains.

MECHANISM

The number of moving parts is reduced to a minimum. There are no toggle motions, cotter pins, wedging actions to break and get out of order. All friction surfaces are protected, and not exposed to wear or corrosion from impurities in water, thus insuring a hydrant with long life.

VALVE

The valve opens and closes slowly, eliminating water hammer. Valve is made of best grade oak tanned sole leather, and is always protected from air, thus greatly retarding deterioration. The area of the valve opening is **TEN PER CENT GREATER THAN RATED OR NOMINAL SIZE OF VALVE**, thus giving a greater actual flow than rated and **ELIMINATING FRICTION LOSS**.

STAND PIPE

The area of stand pipe is 135 per cent greater than area of valve thus eliminating friction loss and increasing flow. This large stand pipe also increases sturdiness of hydrant. All working parts are removable, **INCLUDING THE VALVE SEAT**, repairable and replaceable without removing or excavating stand pipe.

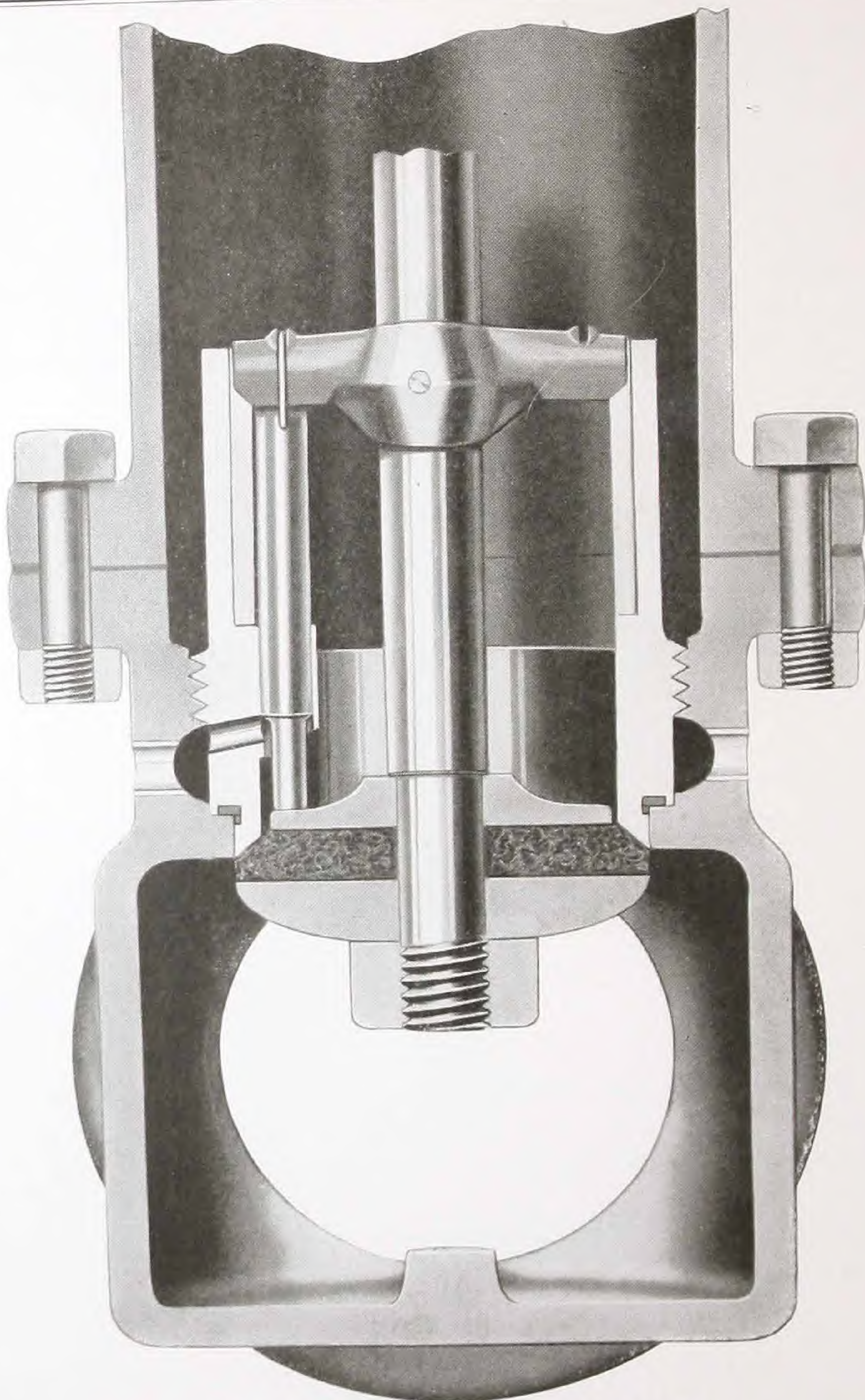
VALVE ROD

Made of rolled steel, and of sufficient diameter to prevent buckling or twisting. It is one piece, there being no welds or joints to fail. Threads are extra heavy, preventing stripping.

DESIGN, PAINTING, ETC.

The hydrant is of artistic design and will add to appearance of any community.

Each hydrant is neatly painted, buried parts of standpipe and bottom are treated both inside and outside with bath of coal tar according to Dr. Angus Smith's formula.



DETAILS OF WATEROUS DRAIN
(PATENTS PENDING)

DRAIN

The drain is in reality a Tobin bronze piston valve or plunger that floats freely between a bronze cross bar on valve rod and the upper valve washer. When hydrant is opened, drain plunger moves downward, closing drain opening and preventing the escape of water. Likewise, when hydrant is closed, plunger moves upward and uncovers drain opening, thus permitting hydrant to quickly drain.

The downward movement of plunger is caused by cross bar and the upward movement by upper valve washer. The small bronze bail or loop at top of plunger encircles one arm of cross bar and acts as a guard against loss of plunger when hydrant is disassembled. This bail has no bearing on functioning of plunger.

The advantage of this drain is that it will not rust, rot, deteriorate or cut out. Instead of having to be periodically repaired, the Watrous drain is a permanent part of the hydrant. The extreme simplicity, positiveness of operation and everlasting properties of this device put it a step in advance over anything that has yet been offered.

TESTING

Each hydrant is tested to 300 pounds hydraulic pressure.

HOSE THREADS

Discharge nipples are carefully cut to correspond to thread furnished by the customer.

Discharge nipples fit well into body of hydrant top, eliminating possibility of becoming loose or breaking off.

BONNET

Made of close grain gray iron and arranged so that steamer connection can be furnished or eliminated.

In case customer originally does not want steamer connection, same may be had at a later date by simply removing top and replacing same with another equipped with steamer connection as desired.

The top receives more or less abuse from collision, run away, etc., and due to its small size it can be quickly and reasonably replaced.

Unless otherwise instructed all hydrants are made to open by turning to the left.

ORDERING

State the distance from pavement to top of pipe connection.

Send hose gauge, so hydrant nozzles may be accurately fitted to it; a part of hose coupling will answer this purpose. If WATEROUS hydrants are already in use, your thread will be on record at our plant.

State size and kind of pipe to which the hydrants are to be connected.

If other hydrants are in use state if they open by turning to right or left and give size and shape of nut for wrench.

INSTALLING

Be sure that hydrant is perpendicular.

See that hydrant is provided with perfect drainage. This may be done, preferably, by connecting drain to nearest sewer. In absence of sewers connect to gravel bed, sandy soil or dig a hole a short distance from hydrant and fill with broken stone or gravel so that hydrant can rapidly empty itself.

It is well to make trench large enough, in any case, to allow filling of ten or twelve inches of stone or coarse gravel to be placed around the bottom of hydrant and extending up above waste orifice to prevent obstruction.

The base should rest firmly upon a solid foundation, and be well braced against the water pressure at bend to obviate any danger of starting the joint.

Hydrants should be placed at point of intersection of the curb and property line. To locate a hydrant at the intersection of curb lines exposes it to damage by collision, etc.

In locating hydrant at other than street intersections, do not set them too close or in front of any large frame structure. The heat from a serious fire would prevent use of hydrant.

Always set hydrant six or eight feet away from poles, etc. The farther away from trees, the better, as often times roots will seek moisture and grow into and clog drain.

We advise a coat of paint after hydrant has been installed as original coat becomes more or less marred from shipping and handling.

USING

When hydrant is first opened, after installing, allow water to run until it becomes clear. This removes gravel and dirt, which might become imbedded in valve and cause leakage.

If water remaining in hydrant does not run out rapidly after closing valve, it is evident that drain is filled up, or that the earth

around the hydrant is not properly drained. This can be remedied by opening hydrant one full turn of the wrench so that drain valve is partly closed. Keep nozzle caps on tight and full pressure from mains will be forced through drain, clearing away any obstructions.

In extremely cold weather it is not unusual for some of the upper working parts to stick by action of the frost, and often gives erroneous impression that hydrant is frozen. In such case a few taps on the nut when wrench is applied, or a small quantity of steam or hot water from engine, will remove difficulty.

The common practice of injecting large quantities of steam at high temperature down to the valve is objectionable and usually ruins same.

REPAIRING

If occasion should arise where it is necessary to remove the main valve or replace the drain, this can easily and quickly be done by one man, without sling, hoist or other apparatus.

A valve seat wrench is furnished with these hydrants for unscrewing valve seat from the hydrant bottom.

To remove valve seat and drain, unscrew bolts (17), (see page 12), and remove jamb nut (2) and spindle nut (1); then remove top (3). This exposes the valve rod (21) and interior of hydrant. The valve seat wrench can now be inserted over the valve rod and lowered into stand pipe until wrench reaches the valve seat (18). With the aid of a bar or rod in the upper end of wrench, the seat can be unscrewed to the left, after which remove the wrench and then withdraw the hydrant rod with its seat, valve and drain mechanism. A few taps on top of valve seat wrench when removing valve seat will aid in removing same. With these parts removed any renewals or repairs can be made with facility.

To replace, have the valve, valve seat and drain all assembled on the hydrant spindle and insert and lower into stand pipe until the bottom is reached, then use the valve seat wrench to tighten seat securely into place.

In lowering the parts into stand pipe, lower gently, and do not drop, as the threads may become damaged. After seat is securely in place, replace top, tighten bolts and screw spindle nut and jamb nut in their proper places, and hydrant will be ready for use.



See Page 13

WATEROUS Fire Hydrant

Improved Compression Type

Repair List

	LIST PRICES		
	4-Inch Hydrants	5-Inch Hydrants	6-Inch Hydrants
0. Oil Hole Screw, Brass	\$.05	\$.05	\$.05
1. Spindle Nut, Bronze	3.00	3.45	3.65
2. Jamb Nut, Bronze	2.20	2.50	2.75
3. Top, Cast Iron	6.50	8.00	12.00
4. Packing Gland, Bronze	2.00	2.30	2.60
5. Hose Nipple, 2½", Bronze	2.50	2.50	2.50
" " for Steamer Nozzle, Bronze ..	2.75	2.75	2.75
6. Hose Cap, 2½", Cast Iron	1.20	1.20	1.20
" " for Steamer Nozzle, Cast Iron	2.50	2.50	2.50
7. Stand Pipe, 7 ft. Cover, Cast Iron	25.00	31.00	40.00
<i>(For each 6 inch variation in length, add or deduct)</i>	<i>1.00</i>	<i>1.35</i>	<i>1.75</i>
12. Valve Washer, Lower, Cast Iron ..	.40	.50	.60
13. Main Valve, Leather	1.65	1.90	2.35
14. Valve Seat Gasket .....	.15	.20	.25
15. Bottom, Cast Iron	10.00	15.00	20.00
16. Valve Rod Nut, Lower .....	.10	.15	.20
17. Stand Pipe Bolts with nut, each .....	.08	.08	.08
18. Valve Seat, Bronze	10.00	12.00	16.00
19. Drain Plunger, Bronze .....	.50	.65	.75
20. Valve Washer, Upper, Cast Iron .....	.40	.50	.60
21. Valve Rod, Any Length, Mild Steel	6.00	6.75	8.00
22. Cross Arm Pin, Bronze .....	.10	.10	.10
23. Cross Arm, Bronze	1.00	1.15	1.30
24. Stand Pipe Gasket, Lower .....	.25	.30	.35
25. Drain Plunger Bail, Bronze .....	.10	.10	.10
26. Valve Rod Nut, Upper <small>(For 4-inch Hydrant Only)</small> ..	.10		
27. Stand Pipe Gasket, Upper .....	.25	.30	.35

On file at our office there are scores of testimonial letters telling of the consistent service and reliability of WATEROUS Fire Hydrants. Copies of these will be gladly sent upon request.

That the WATEROUS Fire Hydrant is the "Standard of the Northwest," is clearly shown by the large number in use. We submit herewith list of cities and villages using WATEROUS Fire Hydrants:

MINNESOTA

Ada,	Brownsdale,	Deerwood,
Adams,	Brownton,	Donnelly,
Adrian,	Brown's Valley,	Dumont,
Albany,	Buhl,	East Grand Forks,
Albert Lea,	Buckman,	Easton,
Alden,	Buffalo Lake,	Echo,
Alexandria,	Caledonia,	Edgerton,
Altura,	Cambridge,	Elba,
Amboy,	Campbell,	Elbow Lake,
Anoka,	Canby,	Elgin,
Appleton,	Cannon Falls,	Elk River,
Argyle,	Canton,	Ely,
Arlington,	Carlton,	Elysian,
Aurora,	Cass Lake,	Excelsior,
Austin,	Ceylon,	Fairmont,
Balaton,	Chandler,	Fairfax,
Barnesville,	Chaska,	Faribault,
Barnum,	Chatfield,	Farmington,
Batavia,	Chisholm,	Fertile,
Baudette,	Chokio,	Foley,
Bayport,	Clara City,	Fosston,
Beardsley,	Claremont,	Franklin,
Belle Plaine,	Clarkfield,	Franklin, St. L. Co.,
Belgrade,	Clinton,	Frazee,
Bellingham,	Cloquet,	Freeport,
Bemidji,	Cokato,	Fulda,
Benson,	Cold Springs,	Gibbon,
Bingham Lake,	Columbia Heights,	Gilbert,
Biwabik,	Comfrey,	Glencoe,
Bird Island,	Cottonwood,	Glenwood,
Black Duck,	Crosby,	Goodhue,
Blooming Prairie,	Currie,	Good Thunder,
Blue Earth,	Cuyuna,	Graceville,
Boyd,	Danube,	Grand Rapids,
Brainerd,	Dassel,	Granite Falls,
Breckenridge,	Dawson,	Greenbush,
Brewster,	Delano,	Grove City,
Brooten,	Delavan,	Halstad,
Browerville,	Detroit,	Hallock,

MINNESOTA—Continued

Hamburg,
Hammond,
Hampton,
Hancock,
Hardwick,
Harmony,
Hartland,
Hastings,
Hawley,
Hayfield,
Hector,
Heidelberg,
Henderson,
Hendricks,
Herman,
Heron Lake,
Hibbing,
Hill City,
Hinckley,
Holdingford,
Hopkins,
Houston,
Howard Lake,
Hutchinson,
International Falls,
Ironton,
Ivanhoe,
Jackson,
Janesville,
Jasper,
Jordan,
Kasson,
Kelliher,
Kenyon,
Kerkhoven,
Keister,
Keewatin,
Kilkenny,
Kinney,
Lake City,
Lake Crystal,
Lakefield,
Lamberton,
Lanesboro,
Leroy,
Lester Prairie,

Le Sueur,
Le Sueur Center,
Lewiston,
Lindstrom,
Litchfield,
Long Prairie,
Lonsdale,
Lowry,
Luverne,
Lyle,
Mabel,
Madelia,
Madison,
Madison Lake,
Mahnomen,
Manganese,
Maple Lake,
Mapleton,
Marietta,
Marshall,
Maynard,
Mazeppa,
Melrose,
Milaca,
Millville,
Milroy,
Minneapolis,
Minnesota,
Minnesota Lake,
Montevideo,
Montgomery,
Moorhead,
Moose Lake,
Morgan,
Morris,
Morristown,
Morton,
Mountain Iron,
Mountain Lake,
McIntosh,
McKinley,
New Brighton,
New London,
New Munich,
New Prague,
New Richland,
New Ulm,

North Branch,
Northfield,
Northome,
North Mankato,
Ogema,
Oklee,
Ogilvie,
Olivia,
Osakis,
Ortonville,
Owatonna,
Parkers Prairie,
Park Rapids,
Paynesville,
Pennock,
Peterson,
Pine City,
Pipestone,
Plainview,
Perham,
Preston,
Princeton,
Raymond,
Red Lake Falls,
Red Wing,
Redwood Falls,
Remer,
Rochester,
Rose Creek,
Rollingstone,
Rush City,
Rushford,
Ruthton,
St. Charles,
St. Cloud,
St. James,
St. Joseph,
St. Martin,
St. Paul,
Sacred Heart,
Sanborn,
Sauk Center,
Sauk Rapids,
Scanlon,
Shakopee,
Sherburne,
Silver Lake,

MINNESOTA—Continued

Slayton,	Twin Valley,	Wayzata,
Sleepy Eye,	Two Harbors,	Welcome,
South St. Paul,	Tyler,	Wells,
Spooner,	Veseli,	Westbrook,
Springfield,	Virginia,	West Concord,
Spring Grove,	Wabasha,	Whalan,
Spring Hill,	Wabasso,	Wheaton,
Spring Valley,	Waconia,	White Bear,
Staples,	Wadena,	Willmar,
Starbuck,	Walker,	Wilmont,
Stephen,	Walnut Grove,	Windom,
Stewart,	Walters,	Winsted,
Stewartville,	Warren,	Winnebago,
Stillwater,	Warroad,	Winnebago City,
Storden,	Waseca,	Winsted,
Taylor's Falls,	Watertown,	Winthrop,
Thief River Falls,	Waterville,	Wood Lake,
Torah,	Waverly,	Zumbro Falls,
Trommald,		Zumbrota,

STATE OF MINNESOTA

State Agricultural College, St. Anthony Park,	New Prague Flour Mill Co., New Prague,
State School of Agriculture, Crookston,	Amer. Clay Products Mfg. Co., Stillwater,
State Penitentiary, Stillwater,	Amer. Brake Shoe & Foundry Co., Minneapolis,
State Sanatorium for Consump- tives, Walker,	St. Paul Foundry Co., St. Paul,
State Hospital for the Insane, Fergus Falls,	Minnesota & Ontario Power Co., International Falls,
State Soldiers' Home, Minnehaha Falls,	Twin City Rapid Transit Co., St. Paul,
State Reform School, St. Cloud,	Hennepin County Poor Farm, Hopkins,
State Training School, Red Wing,	Oliver Mining Company, Ely,
State School for Girls, Sauk Center,	Mahoning Ore & Steel Co., Hibbing,
State School, Morris, Minn.,	Minnesota Sandstone Co., Sandstone,
Akeley Lumber Co., H. C., Minneapolis,	Sandstone Land Co., Sandstone,
Brainerd Lumber Co., Brainerd,	Republic Iron & Steel Co.,
Cloquet Lumber Co., Cloquet,	Northern Lumber Co., Cloquet,
St. Paul Union Stock Yards Co., South St. Paul,	Shenango Furn. Co., Weld Mine, Hibbing,
Swift & Co., South St. Paul,	
Eagle Roller Mills Co., New Ulm,	

MINNESOTA—Continued

Stone & Webster Engineering Corp., Minneapolis.	Duluth, Missabe & Northern Ry. Co.
Fort Henry Mining Co., Sharon.	Duluth, Winnipeg & Pacific Ry. Company.
Bohn Refrigerator Co., St. Paul, Minn.	Ford Motor Co., St. Paul Plant.
Standard Oil Co., St. Paul.	Great Northern Railway Co.
Bennett Mine, Keewatin.	Minnesota and International Ry. Company.
Hill Annex Mine, Calumet.	Minneapolis & St. Louis Railway Company.
Bray Mine, Keewatin.	Minneapolis, St. Paul & S. Ste. M. Ry. Co.
Mesabi Iron Co., Babbitt.	Northern Pacific Ry. Co.
Pittsburgh Iron Ore Co., Mountain Iron.	Spokane, Portland & Seattle Ry. Company.
Hanna Ore Mining Co.	U. S. Veterans Hospital, St. Cloud, Minn.
Northwestern Fuel Co., Duluth.	Wisconsin Central Railway Co.
Pittsburgh Iron Ore Co., Riverton.	Hastings State Asylum, Hastings, Minn.
Camas Prairie Railway Co.	Thorpe Bros. Country Club, Minneapolis, Minn.
Chicago, Great Western Railway Company.	American Radiator Co., St. Paul, Minn.
Chicago, Milwaukee & St. Paul Ry. Co.	St. Paul Union Depot Co., St. Paul, Minn.
Chicago, Milwaukee & Puget So. Ry. Co.	The Texas Co., St. Paul, Minn.
Chicago, Rock Island & Pacific Railroad.	
Chicago, St. Paul, Minneapolis & Omaha Ry. Co.	
Duluth & Iron Range Ry. Co.	

MICHIGAN

Iron River,	Verona Mining Co., Caspian.
Baraga,	Scottsville,
Caspian,	Scott & Howe Lbr. Co., Ironwood.
Gaylord,	Wakefield Iron Co., Wakefield.
L'Anse,	
Ontonagon,	

IOWA

Alden,	Chester,	Forest City,
Alword,	Clarksville,	Hartley,
Ames,	Coon Rapids,	Hawarden,
Armstrong,	Denver.	Hawkeye,
Britt,	Des Moines,	Hospers,
Calmar,	Elkader,	Hull,
Carroll,	Estherville,	Humboldt,
Carson,	Farley,	Jefferson,
Charles City,		

IOWA—Continued

Kamrar,	New Hartford,	Sigourney,
Knoxville,	Perry,	Sioux Center,
Lake Mills,	Postville,	St. Ansgar,
Laurens,	Iowa State College,	Tabor,
Lawler,	Ames,	U. S. Veterans Hos-
Malvern,	Radcliffe,	pital, Knoxville, Ia.
Maurice,	Red Oak,	Van Horne,
McGregor,	Scranton,	Wall Lake,
Merrill,	Sheldon,	Waukon,
		West Bend.

SOUTH DAKOTA

Arlington,	Frankfort,	Parker,
Alpena,	Frederick,	Presbo,
Ashton,	Gary,	Raymond,
Ayon,	Gettysburg,	Redfield,
Beresford,	Groton,	Salem,
Blunt,	Harrold,	Sioux Falls,
Bowdle,	Highmore,	Sisseton,
Bristol,	Huron,	Scotland,
Brookings,	Iroquois,	Stickney,
Bryant,	Ipswich,	St. Lawrence,
Carthage,	Lake Preston,	Tripp,
Chamberlain,	Lemmon,	Tulare,
Claremont,	Leola,	Twin Brooks,
Clark,	Madison,	Veblen,
Conde,	Marion,	Vermillion,
Cresbard,	Mellette,	Virgil,
Dell Rapids,	Milbank,	Ward,
De Smet,	Mohrbridge,	Watertown,
Deland,	Mount Vernon,	Waubay,
Estelline,	McIntosh,	Webster,
Faroka,	Newell,	Wessington,
Fairfax,	Newark,	Wetonka,
Flandreau,	Northville,	White Lake,
Minnesota Mines Co.,	Parkston,	Wolsey,
Deadwood,		
State Agricultural College,		State Board of Agriculture,
Brookings,		Huron.

NEBRASKA

Ashland,	Emerson,	McCook,
Aurora,	Hartington,	O'Neill,
Bellevue,	Holdrege,	Otoe,
Cedar Bluffs,	Howell,	Primrose,
Clarkson,	Lyons,	Stanton,
Daneshrog,	Minden,	Tilden,

NORTH DAKOTA

Amenia,	Grafton,	Mohall,
Antler,	Glen Ullin,	McClusky,
Beach,	Harvey,	McVile,
Bismarck,	Hazen,	New Rockford,
Bottineau,	Hebron,	North Fargo,
Bowbells,	Hillsboro,	Oakes,
Bowman,	Jamestown,	Park River,
Carrington,	Kenmare,	Richardton,
Cooperstown,	Killdeer,	Rugby,
Devils Lake,	La Moure,	Sheldon,
Dickinson,	Langdon,	Towner,
Ellendale,	Larimore,	Valley City,
Elliot,	Lidgerwood,	Velva,
Enderlin,	Lisbon,	Wahpeton,
Fargo,	Mandan,	Walhalla,
Fessenden,	Mayville,	Washburn,
Garrison,	Milton,	Williston,
Grand Forks,	Minot,	Wimbledon.
State Soldiers' Home, Lisbon.	North Dak. State Tubercular S.,	
State Hospital for the Insane,	Dunseith.	
Jamestown.	Equity Co-Operative Pkg. Co.,	
	Haggart.	

WISCONSIN

Altoona,	Glenwood,	New Richmond,
Amery,	Greenwood,	Niagara,
Athens,	Hammond,	Osceola,
Bonduel,	Hayward,	Owen,
Blair,	Hudson,	Park Falls,
Bloomer,	Independence,	Phillips,
Boyd,	Iron River,	Prescott,
Bruce,	Juneau,	Reeseville,
Baldwin,	Kewaskum,	Rhineland,
Bangor,	Kilbourn City,	River Falls,
Barron,	Kimberly,	St. Croix Falls,
Black River Falls,	Lac du Flambeau,	Soldiers' Grove,
Cambria,	Ladysmith,	Sparta,
Cameron,	Luck,	Stanley,
Chetek,	Marshfield,	Stevens Point,
Clyman,	Mason,	Thorp,
Colby,	Mauston,	Viroqua,
Coon Valley,	Menomonie,	Waupun,
Cornell,	Milton,	Wauwatosa,
Cumberland,	Mineral Point,	West Salem,
Elmwood,	Minocqua,	Whitehall,
Ellsworth,	Neillsville,	Wilton,
Frederick,	New Holstein,	Winter,
Gillett,	New London,	Woodville,

WISCONSIN - Continued

Arnold Lumber Co., Park Falls	One Chair County Asylum,
India Paper & Pulp Co.,	One Chair.
One Chair.	Home for the Feeble Minded,
Northwestern Lumber Co.,	Chippewa Falls.
One Chair.	State Public School, Sparta.
White River Lumber Co.,	Trempealeau County Asylum,
Mason.	Winchell.

MISSOURI

Burlington Jct.,	Maryville.	St. James.
Holton.	Odessa.	

MONTANA

Armstrong,	Clondike,	Red Lodge.
Butte,	Missoula,	Whitefish.
Calverton,	Paradise,	Wilson.
Chippewa,	Pogon,	
Northwestern Improvement Co.,	South Hill, Shoup Co.,	
Red Lodge.	Martindale.	
Office Lumber Co., Kalispell.	Continental Coal Co., Lolo.	

IDAHO

Arden.	Millers.	Princeton.
Arden.	North Bend.	Salmon.
Arden Park.	Orange City.	Silverton.
Blackfoot.	Franklin.	Shoshone.
La Grande.	Portland.	The Dalles.
		Townsend.

WASHINGTON

Abundant.	Chico.	Vanouver.
Chico.	Palouse.	Walla Walla.
Continental.	Palouse.	Wenatchee.
Marion Lake.	Shelton.	Walla Walla.
Oriskany.	Uniontown.	

Continental Lumber Co., North Yakima.

IDAHO

Arden Falls.	State School, Elm.	Hardwood Lumber Co.,
Idaho.	Idaho.	Paul Park.
	Harrison.	

ILLINOIS

Antioch,
Bartlett,

Chicago Heights,
Hanover,
Joy,

LaGrange Park,
Melrose Park.

MISCELLANEOUS

Fort Francis, Ont.
Juneau, Alaska.

Skagway, Alaska.

U. S. A., Fort Snelling, Minn.

U. S. A., Fort Lincoln, N. D.

U. S. A., Fort Assiniboine,
Montana.

U. S. Government Hospital,
Knoxville, Ia.

U. S. A., Fort Keogh, Mont.

U. S. A., Fort Missoula, Mont.

U. S. A., Fort Yellowstone, Wyo.

U. S. Indian School,
Lac du Flambeau, Wis.

U. S. Indian School,
Standing Rock, S. D.

U. S. Trading Post,

Leech Lake, Minn.

White Earth Indian Reservation,
Minn.

Cico, Texas.

Waco, Texas.

Fort Steele, B. C.

Ludington, Mich.

Goff, Kansas.

Yankton State Hospital, Yank-
ton, S. D.

U. S. Veterans Hospital, Knox-
ville, Iowa.

Oregon-American Lumber Co.,
Vernonia, Oregon.

Cheneyville, La.



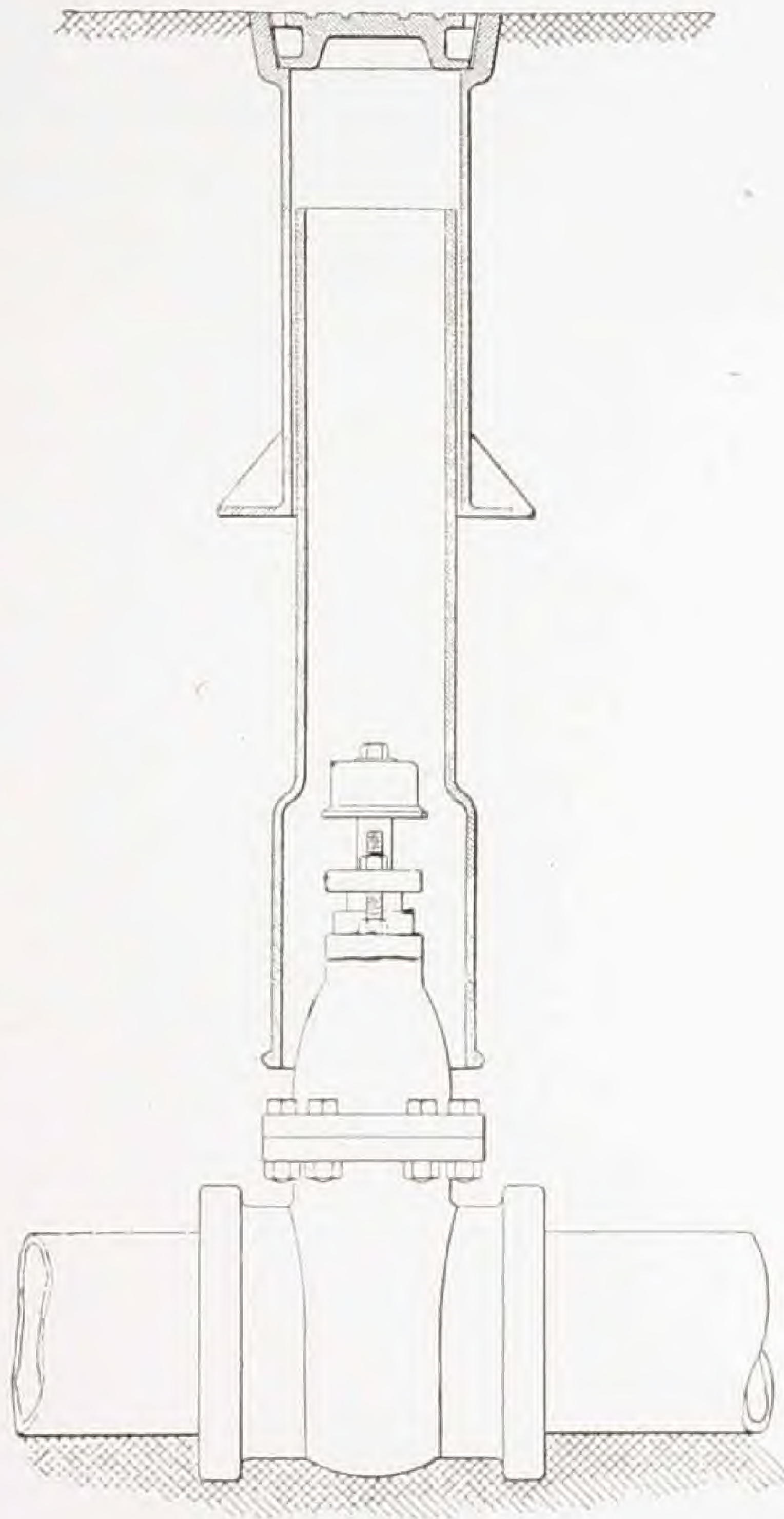
GATE VALVES

Iron Body, Bronze Mounted, Hub Ends

Especially constructed for water works service, and extra strong to withstand rough usage incidental to such service. Made to open by turning to left, unless otherwise instructed. All sizes furnished. Flange faced valves also furnished. Guaranteed to meet American Waterwork Association specifications.

Diameter, inches	4	6	8	10	12	14	16
Weight, pounds	99	185	285	409	590	800	1015

Net prices on application.



CAST IRON EXTENSION VALVE BOXES

They are for use with gate valves underground, to enable them to be operated from the surface by means of a wrench passing down through the hollow tube, having a socket on its lower end and fitting the square nut on the stem of the valve.

As will be seen from illustration, these boxes are made adjustable, to conform to depth, valve may be placed underground, so that the top may be exactly flush with the surface. The lower part should not be extended so far that it would not all at times have a bearing inside the upper part of about six inches.



CAST IRON WATER PIPE



JUTE



PIG LEAD

Cast iron pipe, jute and pig lead carried in stock.
Prices on application.

Specials for Cast Iron Pipes



QUARTER BENDS, 90 DEGREES

Size, inches	4	6	8	10	12	14
Weight, pounds	82	130	200	278	366	504
Size, inches	16	18	20	24	30	36
Weight, pounds	750	888	1070	1656	2836	4820

EIGHTH BENDS, 45 DEGREES

Size, inches	4	6	8	10	12	14
Weight, pounds	66	105	150	202	265	442
Size, inches	16	18	20	24	30	36
Weight, pounds	558	663	964	1515	2291	4012

SIXTEENTH BENDS, 22½ DEGREES

Size, inches	4	6	8	10	12	14
Weight, pounds	66	105	150	202	265	382
Size, inches	16	18	20	24	30	36
Weight, pounds	484	574	858	1372	2080	4012



TEES

Size	Weight Lbs.	Size	Weight Lbs.
4x 4x 4	128	10x10x 4	338
6x 6x 6	200	12x12x12	512
6x 6x 4	183	12x12x10	491
8x 8x 8	294	12x12x 8	474
8x 8x 6	270	12x12x 6	458
8x 8x 4	255	12x12x 4	445
10x10x10	395	14x14x14	724
10x10x 8	371	16x16x16	969
10x10x 6	352	16x16x12	861

SPECIALS FOR CAST IRON PIPE—Continued



CROSSES

Size Inches	Weight Lbs.	Size Inches	Weight Lbs.
4x 4x 4x 4	166	10x10x 4x 4	377
6x 6x 6x 6	257	12x12x10x10	577
6x 6x 4x 4	221	12x12x12x12	623
8x 8x 8x 8	372	12x12x 8x 8	545
8x 8x 6x 6	325	12x12x 6x 6	512
8x 8x 4x 4	294	12x12x 4x 4	486
10x10x10x10	493	14x14x14x14	963
10x10x 8x 8	443	16x16x16x16	1259
10x10x 6x 6	406	18x18x18x18	1454



Sleeve



Plug



Cap

Size, inches.....	4	6	8	10	12	14	
Sleeves, weight, lbs.....	61	87	119	176	223	280	
Plugs, weight, lbs.....	8	14	24	38	50	65	
Caps, weight, lbs.....	26	40	50	81	104	149	
Size, inches.....	16	18	20	24	30	36	48
Sleeves, weight, lbs.....	143	518	625	821	1262	1772	2879
Plugs, weight, lbs.....	96	121	156	472	723	1050	2047
Caps, weight, lbs.....	198	242	308	442	704	1084	2341



Reducer



Increaser

Size Inches	Weight Pounds	Size Inches	Weight Pounds
6x 4	97	4x 6	104
8x 6	143	4x 8	132
8x 4	119	4x10	162
10x 8	198	6x 8	150
10x 6	169	6x10	180
10x 4	146	6x12	218
12x10	261	8x10	201
12x 8	231	8x12	240
12x 6	202	10x12	267
12x 4	179	12x14	378
14x12	360		

SIAMESE CONNECTIONS Without Gates



Figure A

One stream into two



Figure B

Two streams into one

HYDRANT GATES



Figure C

2½ inches single



Figure D

2½ inches double

SPANNER WRENCH



Figure E



Figure F

Prices on Application



Figure 1

UNDERWRITER'S REGULATION HOSE PIPE



Figure 2

BRASS HOSE PIPE WITH SCREW NOZZLE

We can furnish any kind or size of hose pipe, gun pipe or nozzle,
that may be required.

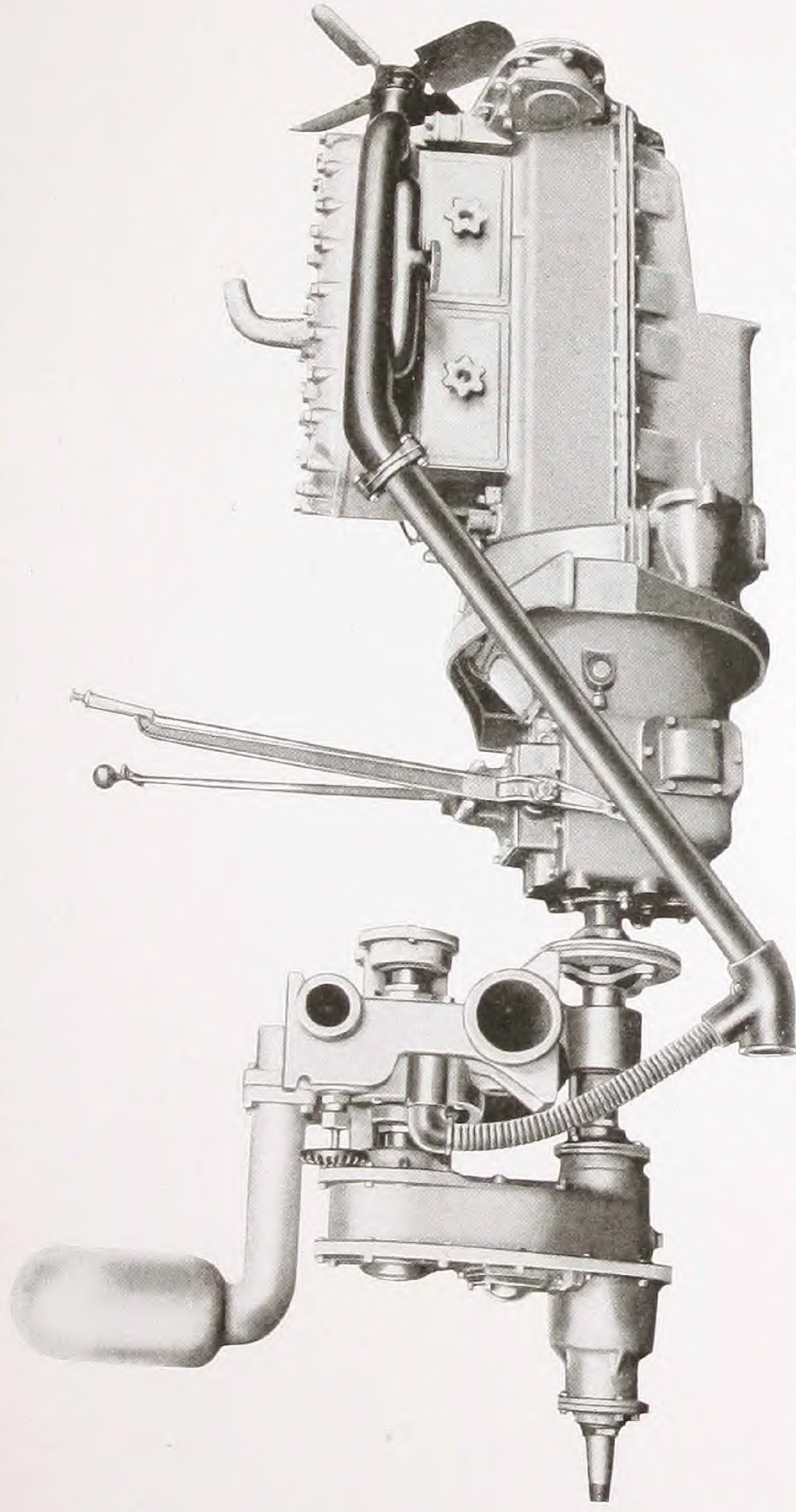


Figure 3

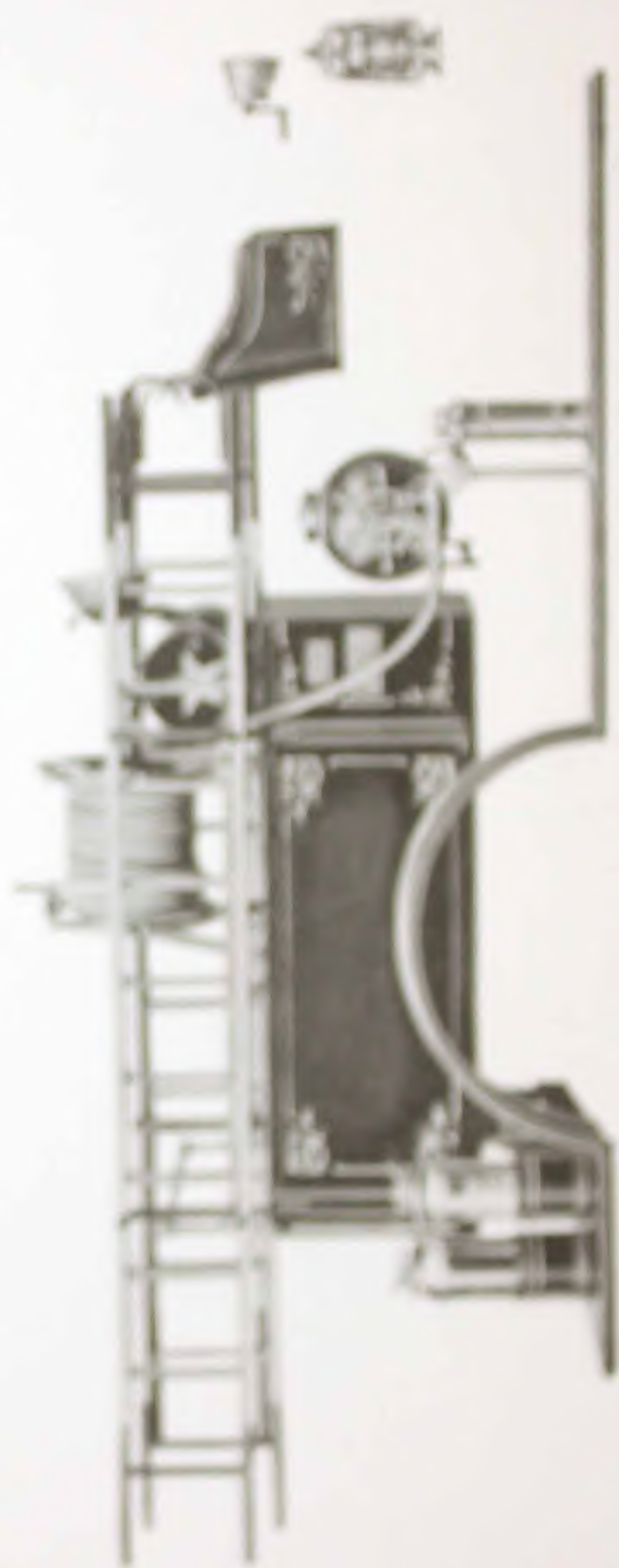
With holder hook, screw nozzle and 1 1/2 inch
all nozzle attached

Price on application

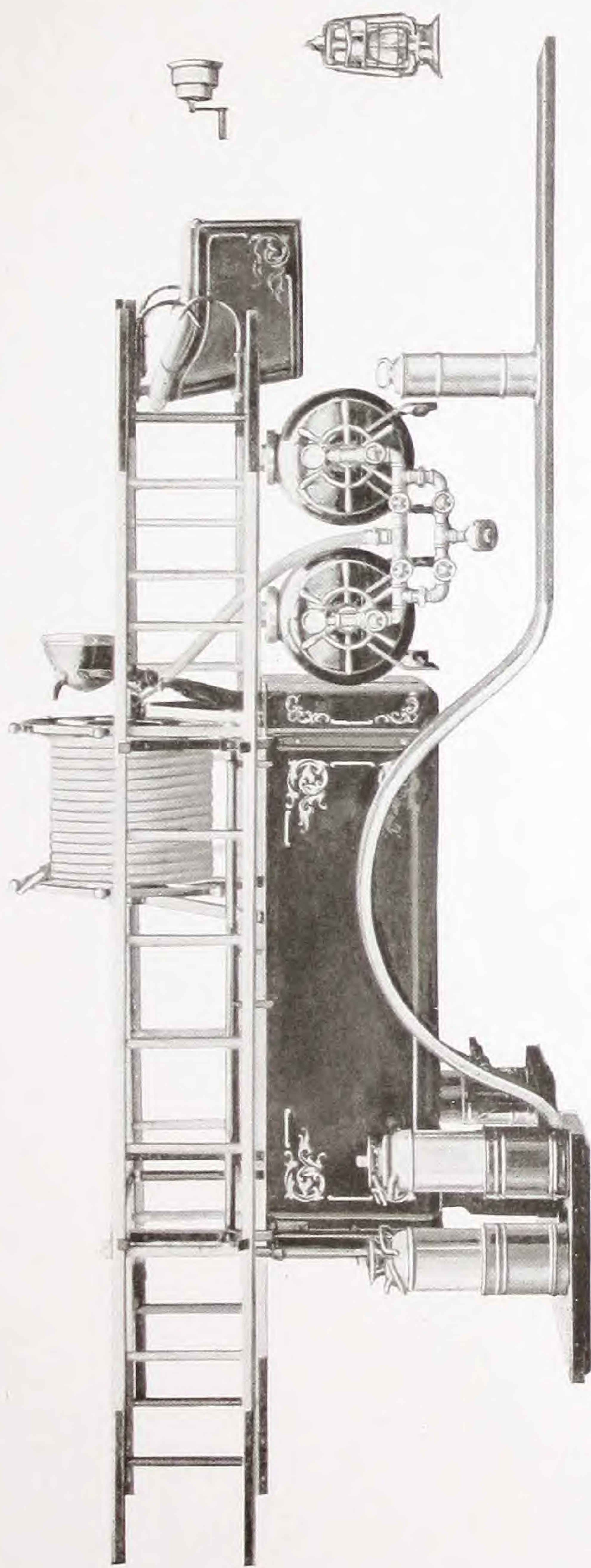
WATEROUS ROTARY PUMP



The above is a typical Fire Truck Installation, showing relative positions of the Waterous Pump, Transmission and Motor



TYPE "X" HIGH SPEED PUMP FOR BOILING OR ANY STANDARD STEAM



TYPE "B" EQUIPMENT—For mounting on any standard chassis

